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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,594	07/24/2003	Masahiro Chida	1131-0486P	7938
2292	7590	06/24/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			ROGERS, DAVID A	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/625,594

Applicant(s)

CHIDA ET AL.

Examiner

David A. Rogers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input checked="" type="checkbox"/> Other: <u>Non Final Rejection</u> .  |

**DETAILED ACTION**

1. The applicant's Request for Continued Examination (RCE) has been received and entered. Accordingly, the applicant's claims filed 08 April 2005 have been entered. Claims 1-4 and 6-10 are now pending in this application.

***Response to Arguments***

2. Applicant's arguments with respect to claims 1-4 have been considered, but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 6,048,404 to White in view of United States Patent 5,437,201 to Krueger, United States Patent 5,621,180 to Simon *et al.*, and United States Patent 5,863,789 to Komatsu *et al.*

White teaches that it is known to analyze the headspace of a container holding a solid sample such as from tobacco. In particular, White teaches that tobacco is placed in a container that is sealed. The headspace in the container is replaced with an inert gas such as nitrogen (N<sub>2</sub>). The sealed container is maintained at a predetermined temperature, e.g., at 175 °C, in order to release

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the volatile materials contained in the tobacco into the headspace. Afterwards, the headspace is sampled. Next, the sample is injected into gas analyzer such as a gas chromatograph. White also teaches that this temperature does not thermally decompose the tobacco (column 3, lines 38-60). White does not teach the use of an evacuated canister for collecting the sample.

Kreuger teaches the use of an evacuated device for use in collecting a sample. The apparatus has a container (reference item 3) that is connected to a valve (reference item 25) and a pump (reference item 16). The pump, powered by a battery (reference item 14) is used to evacuate the container. Inside the container is a sample holding vessel (reference item 9), such as a Tedlar bag. Tedlar bags are taught as being preferred sample holding vessels as they do not chemically react with the sample. In use the container/sample holding vessel is coupled a sampling location using a connection (reference item 12) and a valve (reference item 11). When a sample is desired the pump evacuates the container. Next, the valve (reference item 11) is opened. The differential pressure between the sampling location and the sample vessel causes the sample to fill the holding vessel. The valve is closed thus trapping the sample in the sample vessel. Krueger teaches that this is a preferred device for obtaining a sample from a headspace since it does not allow the material in the headspace to be exposed to the atmosphere (column 3, lines 50-54) or to various pieces of equipment (column 4, lines 7-12).

Furthermore, Simon *et al.* teaches that it is known to use an evacuated canister (reference item 12) (see figure 1) for the collection of samples that will be analyzed by means such as a gas chromatograph. The canister is made of stainless steel and has a deactivated inner surface. The canister also has an associated pressure gauge (reference item 18) capable of displaying a pressure between -30 in. Hg to 30 psi. This would indicate that the sample canister has the ability to be evacuated to about 100 Pa, or roughly 0.0145 psi.

Adapting Krueger to utilize an evacuated canister, as taught by Simon *et al.*, would eliminate the need to provide and maintain a separate pump and battery. Furthermore, the evacuated canister is rigid and would not be subject to accidental puncturing. Modifying the teachings of White to use an evacuated canister sample collection system, as taught by Krueger in view of Simon *et al.*, would allow the entire sample to be collected and stored indefinitely. This is useful in cases where multiple analyses are to be performed over time, or if there is a need to reanalyze the sample.

Next, as noted above, the sealed container of White is maintained at a predetermined temperature, e.g., at 175 °C, in order to release the volatile materials. The temperature controller used is a heat jacket. See column 7, lines 25-50. White does not expressly teach the use of a thermostatic chamber to maintain the sample at a predetermined temperature.

As is known in the art thermostatic chambers offer excellent temperature-controlled environments. Furthermore, Komatsu *et al.* teaches

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that it is known in the art to use a thermostatic chamber to maintain the temperature of a sealed container with a solid sample (column 17, lines 48-62).

Modifying the teachings of White to use a thermostatic chamber would allow excellent control of the temperature of the sample so that the volatiles will be released and the sample does not degrade.

With regard to claim 6 the applicant claims a sample holder containing a solid sample. The applicant's sample holder inherently comprises a headspace, which the applicant fills with inert gas. This is the same as White. Over time, when the sample is held at a constant temperature, the headspace in the applicant's holder will reach equilibrium with regard to the release of any compounds in the sample. That is, liquids in the sample will vaporize and enter the holder's headspace at the same rate that vapors will re-enter a liquid state. Again, this is the same as White.

When a depressurized canister is attached to the sample holder all of the contents of the headspace will be forced into the canister due to the pressure differential. Additional liquids in the sample will also evaporate due to the rapid drop in pressure in the sample holder's headspace. See "Vapor Pressure" to Wikipedia that was previously cited to the applicant. These evaporated materials will also be drawn into the sampler until pressure equilibrium is reached.

By adapting the sampling process/apparatus of White (teaching a sample holder containing a solid sample and a headspace region filled with inert gas)

to utilize an evacuated canister (as taught by Krueger in view of Simon *et al.*) and the taught benefits) any liquids in the sample of White will inherently “evaporate” and be drawn into the sampler along with any headspace vapors.

The prior art and the applicant’s claims are performing the same function.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of White with the teachings of Krueger, Simon *et al.*, and Komatsu *et al.* in order to provide a system for sampling using an evacuated canister and a thermostatic chamber.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. United States Patent 3,290,889 to Nii teaches the general benefits of using thermostatic chambers.

b. United States Patent 5,433,120 to Boyd *et al.* teaches the use of an evacuated chamber (reference item 11) connected to a valving system (reference item 13). Actuation of the valving system causes a constant amount of a sample to enter into the chamber. The device has the benefit of purging the system between samples so as to avoid contamination of subsequent samples.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Rogers whose telephone

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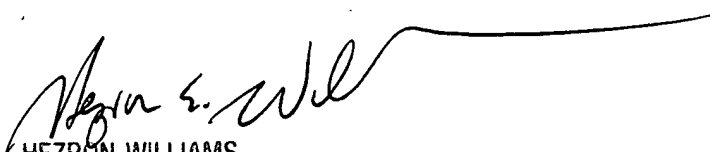
number is (571) 272-2205. The examiner can normally be reached on Monday - Friday (0730 - 1600).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dar

22 June 2005

  
HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800